

Remarks

In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

By way of the above amendments, applicants have amended claims 1, 3, 10, 12, 23, 24, 59, 63, 71, and 74, and cancelled claims 2, 11, and 13-15 without prejudice. Withdrawn subject matter has also been cancelled from claims 1 and 59 without prejudice. Claim 63 has been re-written in independent form. No new matter has been introduced by these amendments.

Claims 1, 3, 5-10, 12, 16-28, and 59-74 remain pending, with claims 24 and 25 currently standing withdrawn. Because withdrawn claim 24 has been amended to depend from claim 1, applicants respectfully request withdrawal of the restriction as previously applied to withdrawn claims 24 and 25.

No additional claims fees are required, because only four independent claims are presented and only 38 total claims are presented (which is less than the 4 independent/58 total claims for which applicants previously paid).

Applicants submit that the denial of priority to U.S. Provisional Patent Applications Serial Nos. 60/451,309, filed February 28, 2003 ("the '309 priority application), and 60/468,467, filed May 6, 2003 ("the '467 priority application"), is improper. Both the '309 priority application and the '467 priority application disclose performing the claimed invention using a *sir2Δ* mutant (a deletion mutant) with optical detection. The comparison of the *sir2Δ* mutant to wild-type (control cells) is clearly shown in the accompanying graphs, and a comparison is made between the test and control to show that the *sir2Δ* mutant decreases replicative lifespan. The '467 priority application also clearly identifies integrating different deletion mutant collections (e.g., haploids, homozygous diploids, heterozygous diploids of deletion mutants) into the described assay. For these reasons, the present application is entitled to the February 28, 2003, filing date of the '309 priority application and May 6, 2003, filing date of the '467 priority application.

The rejection of claims 23 and 71 under 35 U.S.C. § 112 (second paragraph) for indefiniteness is respectfully traversed in view of the above amendments. In discussing the use of colony size as a measurement of replicative lifespan, the specification recites at page 22, lines

20-23, that “the two-dimensional area of...a colony equates to the replicable lifespan of the mother cell. Hence, the larger the two-dimensional area of the colony, the higher the replicative lifespan.” The specification therefore recites that colony size is proportional to replicative lifespan. This rejection should be withdrawn.

The rejection of claims 23 and 71 under 35 U.S.C. §112 (1st para.), for failure to comply with the written description requirement, is respectfully traversed. As noted in the preceding paragraph, the specification supports the language of claims 23 and 71. This rejection should therefore be withdrawn.

The rejection of claims 1-3, 11-12, 19-22, and 74 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,874,210 to Guarente et al. (“Guarente”) is respectfully.

Guarente teaches a method of identifying a gene mutation or compound that alters the lifespan of temperature sensitive yeast strains (e.g., yeast cells possessing a mutation in the *mdm2-2* gene). In this method, mother cells replicate at a non-permissive temperature, but the daughter cells cannot.

Claims 1 and 74 both recite “culturing the control cell cultures and one or more test cell cultures on a growth medium that allows mother yeast cells to replicate but not daughter yeast cells.” Guarente fails to teach an assay that operates in this manner. Because Guarente fails to teach or suggest each and every limitation of the claimed invention, the rejection of claims 1-3, 11-12, 19-22, and 74 over Guarente is improper and should be withdrawn.

The rejection of claims 1-3, 5-11, 16, 19-20, 22, 59-62, 64, 67-68, 70, and 74 under 35 U.S.C. §102(b) as being anticipated by Jarolim et al., “Is There a Way to Select for Long Lived Yeast Mutants?” 1st International Meeting on Yeast Apoptosis, Braga, Portugal, Meeting Abstract, October 4-6, 2002 (“Jarolim I”), as evidenced by Jarolim et al., “A Novel Assay for Replicative Lifespan in *Saccharomyces cerevisiae*,” *FEMS Yeast Research* 5:169-77 (2004) (“Jarolim II”), is respectfully traversed.

Firstly, Jarolim II (published August 2004) is not available as prior art and cannot be relied on for any teaching contained therein.

Secondly, Jarolim I describes treating the yeast K6001 cells with a pro-oxidant, an environmental stimulus, that induces damage to exposed cells. Treatment with a pro-oxidant in the manner of Jarolim I is specifically excluded from the scope of the original claims, and is

clearly outside the scope of the claims as presented (now excluding withdrawn subject matter). In particular, Jarolim I fails to teach or suggest using the assay to identify whether a genotype modification alters the lifespan of an organism.

Because Jarolim I is deficient for these reasons, the rejection of claims 1-3, 5-11, 16, 19-20, 22, 59-62, 64, 67-68, 70, and 74 as anticipated by Jarolim I (as evidenced by Jarolim II) is improper and should be withdrawn.

The rejection of claims 1-3, 5-11, 16-20, 22, 59-62, 64-68, 70, and 74 under 35 U.S.C. § 103(a) for obviousness over Jarolim I and II in view of U.S. Patent No. 6,531,289 to Bradley et al (“Bradley”) is respectfully traversed.

The teachings and deficiencies of Jarolim I/II are noted above. Bradley is cited for teaching a method of screening for yeast cell growth where the yeast is grown in liquid media and the growth is measured by optical density of the cells in the media. Because the PTO has failed to identify how Bradley overcomes the above-noted deficiencies of Jarolim I/II, this rejection is improper and should be withdrawn.

The rejection of claims 1-3, 5-11, 16-20, 22, 27-28, 59-62, 64-68, 70, and 72-74 under 35 U.S.C. § 103(a) for obviousness over Jarolim I and II in view of Bradley and further in view of U.S. Patent No. 6,200,746 to Fisher et al. (“Fisher”) is respectfully traversed.

The teachings and deficiencies of Jarolim I/II and Bradley are noted above. Fisher is cited for teaching high-throughput screening assays for identifying HPVE7 and CDK2 inhibitors using yeast-based systems. Because the PTO has failed to identify how Fischer overcomes the above-noted deficiencies of Jarolim I/II and Bradley, this rejection is improper and should be withdrawn.

The rejection of claims 1-3, 5-11, 16, 19-22, 59-62, 64, 67-70, and 74 under 35 U.S.C. § 103(a) for obviousness over Jarolim I/II in view of Guarante is respectfully traversed.

The teachings and deficiencies of Jarolim I/II and Guarante are noted above. The PTO has cited Guarante only with respect to manually counting the mother cells via micromanipulation (i.e., removal) of daughter cells. Even assuming that Guarante and Jarolim I can be combined in this way (which applicants do not admit), applicants submit that the combination is deficient because Guarante fails to overcome the above-noted deficiencies of Jarolim I. Therefore, this rejection is improper and should be withdrawn.

Applicants note the objection to claims 26 and 63. Because claim 63 has been re-written in independent form, this claim should be allowable. The objection to claim 26 should be withdrawn, because claim 26 is allowable for the reasons noted above.

In view of all of the foregoing, applicant submits that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

Date: February 11, 2008

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